Physician-Patient Partnerships for Lifelong Health Monitoring

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Progress against disease has created in some parts of the world a situation in which people can expect good health into the eighth decade of life and beyond. Ideally that involves a physician-patient partnership for health maintenance, wherein a patient actively develops a life-style that is conducive to health.

The scientific base for health maintenance has been growing through epidemiologic demonstration of the relationship between health and such living habits as smoking, diet, exercise and the use of alcohol, and the significance of blood pressure and other precursors of health effects that can be determined by physical examination.

Lifelong health monitoring of patients by physicians builds on this scientific base for health maintenance, which merely extends the presently well-established schema for monitoring health during pregnancy and infancy. Public readiness for a health-oriented, in addition to a disease-oriented, medical service is growing.

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During the past five or six decades people in our society increasingly have placed responsibility for their health in the hands of physicians. The obvious potential of modern medicine for dealing effectively with many diseases, including several forms of cancer and other highly malignant conditions, has inspired that confidence.

Advances in longevity and disease control have been so striking, in fact, that people and their physicians are now becoming concerned about a new health problem: how to maintain health rather than merely preserve life and struggle against disease.

Trends in Physician-Patient Partnership for Health

Throughout history the main focus of physicians in serving their patients has been to restore health that has been damaged by some pathologic condition. Recently, however, progress in overcoming and even preventing disease, for the first time in the history of humanity, has created a situation in which most persons can seek health and not just seek to overcome disease. Americans, for example, now live typically into the eighth decade of life having escaped the effects of serious disease almost all of their lives.

In these new circumstances people and their physicians are increasing their attention to achieving health in the positive sense, sometimes called "wellness," beyond disease control. Nowadays, to a substantial and growing proportion of people, health means more than simply having no condition that fits the nomenclature of disease. It means the joy of getting the most from life—incidentally, life that is extending faster after age 65 than in all the years up to that time. People understandably want to enjoy all those years to the utmost; avoiding or curing the conditions that previously devastated them is good but not enough.

Meanwhile, a second recent trend is affecting the health task and especially the role of physicians with their patients: the tendency for people to assume more responsibility for their health, including both its restoration when necessary and its maintenance throughout life.

In respect to treating disease, people are entering onto what physicians have long regarded as their own turf. For example, until quite recently radical mastectomy dominated the breast cancer therapy scene; no one, not even physicians, dared challenge the dogmatic followers of Halsted. Nowadays, however, clinicians have established a considerable array of

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therapies. In this changed circumstance and reflecting other new attitudes, a woman with the disease not uncommonly will study her own situation. She may consult friends, relatives and more than one physician, and then seek arrangements with a physician who will treat the problem according to her views. The situation occasionally seems to entail physician, not patient, "compliance." Obviously, extreme forms of that trend carry serious hazard to patient welfare; how far it will develop and how physicians will deal with it remain to be seen. Giving more complete information concerning therapeutic options and drawing patients into the decisions are, nevertheless, becoming the mode. Families also are entering the treatment decision-making process—for example, in selecting procedures for care of the dying.

Even more than in the case of treatment, steps toward health maintenance involve patient participation. Recognition that diet, exercise, the use of cigarettes and alcohol and other features of daily activity profoundly influence health is affecting the behavior of both physicians and their patients. The current decline in cigarette smoking illustrates the trend. In that regard physicians have been more prominent as exemplars than in patient counseling. Increasing attention to life-style for health in the United States opens the possibility that a genuine partnership will evolve between physicians and the public, both for maintaining health and for restoring it.

The notion that physicians as part of their work should concern themselves with what people do in their daily lives is, of course, not new. In ancient civilizations medicine was closely linked with diet and other aspects of everyday life. About 2000 BC, for example, a Chinese physician prescribed "Cereals for energy, fruits for accessory, animals for benefit, vegetables for supplement" (Xa Da-dao, "A Brief Overview of the History of Nutrition in China," unpublished document, February 10, 1981); with a broad interpretation to the word "animal," the prescription could hardly be improved today. The idea of a balanced diet was only one of many contributions by Chinese medicine to sensible nutrition. More than 1,000 years before Western medicine discovered the cause of beri-beri, Chinese physicians wrote that it could be cured by eating rice polishings. During the Sung Dynasty (900-1279 AD) a book called *Tea* or *Chia* advised drinking boiled water to prevent diseases carried by water. That was several centuries before Snow or Pasteur.

Turning to the origins of our Western tradition in medicine, the Hippocratic treatise *Ancient Medicine* noted that "the general discovery of foods to suit all conditions finally resulted in the birth of medicine. People learned by experience to do certain things and to avoid others in order to maintain health.[1] In writing about Galen, Sigerist has observed that his idea of hygiene was "a correct amount of food, drink, sleep, wakefulness, sexual activity, exercise, massage, etc."

Modern biochemistry and other medical sciences are an important aid to the wisdom of the human body, but they do not constitute that wisdom. People and their physicians have learned through the ages what activities make a healthful life-style and they generally try to follow that way of living.

Scientific Base for Health Maintenance

Life insurance actuaries in the 1930s published data showing that mortality is higher among people who are obese or who smoke cigarettes. Their companies raised premiums for those overweight in one of the first major moves to incorporate a risk factor beyond age and sex into life insurance payment structures.

Two decades later epidemiologists had proved cigarette smoking to be a cause of lung cancer and other diseases. Cardiologists in the 1970s discovered that identifying and aggressively treating persons who had only moderately elevated blood pressure yielded a better outcome than if they received little or no attention. Meanwhile, further understanding of risk factors for health and how to deal with them was rapidly emerging. This growing comprehension of the natural history of the major epidemics in our time—coronary heart disease, lung cancer and others—yielded two possibilities for intervention.

One approach was to detect and treat early stages of disease before full clinical manifestation occurred; for example, cervical carcinoma in situ. That idea can, of course, be extended to defining and seeking optimum levels of serum cholesterol and body fat, rather than just combating hypercholesterolemia and obesity. Another approach was to identify and try to influence personal habits that largely determine disease and health, such as exercise and diet.

The Framingham study disclosed that cardiovascular disease was 20 times more likely to develop in eight years in a 45-year-old man who had glucose intolerance, a systolic blood pressure of 195 mm of mercury, a serum cholesterol level of 285 mg per dl and who smoked cigarettes than in a 45-year-old man who had normal glucose tolerance, a systolic blood pressure of 105 mm of mercury, a cholesterol level of 185 mg per dl and who did not smoke cigarettes.[2] Each of these factors added independently to the risk. If one considers these criteria extreme, assume good glucose tolerance in both men, one with a systolic blood pressure of 165 mm of mercury who smokes cigarettes and with a serum cholesterol level of 235 mg per dl, and the other who does not smoke cigarettes and who has a systolic blood pressure of 135 mm of mercury and a serum cholesterol level of 185 mg per dl. With these measurements, the difference in risk is fourfold.

From a study in Alameda County, California, seven so-called health habits were identified: eating moderately, eating regularly, using alcohol moderately or not at all, not smoking cigarettes, eating breakfast, exercising at least moderately and sleeping seven to eight hours.[3] At every age, from 20 to 70 years, those who followed all seven health habits had better physical health than those who followed six, six was better than five, five better than four, four better than three and three better than two or fewer. At age 45 a man with none to three of the habits had a life expectancy of 22 more years—that is, to age 67; four to five habits, 73 years, and six to seven habits, 78 years.

Dozens of additional studies add to the scientific base for considering both physical measurements and behavior in health maintenance.

Basis in Medical Practice for Health Maintenance

While physicians generally have focused on restoring health after it is lost—that is, diagnosing and treating disease—in certain fields of medical practice health maintenance has already become a major theme.

Obstetricians have long devoted themselves primarily to guiding health during pregnancy. Regimens for the medical

care of women during pregnancy and parturition have become quite well standardized. Defining these regimens and helping women to incorporate them into their lives while bearing children have, in fact, attracted the major efforts of obstetricians for several decades. Strikingly reduced maternal mortality has accompanied, and in large part probably been attributable to, these efforts. Better care of pregnant women may also have contributed substantially to the decline in infant mortality. In pregnancy the aim has shifted toward maintaining or even improving health, not merely avoiding the potential disasters of that period of life.

In pediatrics, likewise, physicians are concerned with much more than treating illness and injury. Beyond specific immunizations to strengthen bodily resistance against several childhood diseases, the practice of pediatrics has established procedures for bolstering the health of children, such as through diet and behavioral influences. In this endeavor pediatricians have clearly entered on a partnership with mothers, and to some extent fathers and the children themselves, to provide the best possible conditions for healthy growth and development.

This approach to health care is extending beyond the prenatal, infant and childhood periods into adult life. Many practitioners of general internal medicine and family medicine find themselves increasingly occupied with periodic health appraisals and with guiding their patients based on such appraisal. This aspect of medicine also appeared years ago in the practice of large corporations that sent senior executives to leading clinics for health maintenance service.

Public Readiness for Health Maintenance

A 1978 Louis Harris poll included this item:

There are two kinds of medicine, one curative—which treats and seeks to cure people who are sick; and another—preventive—which seeks to prevent people who are well from becoming sick. At the moment, do you think our health care system has got the balance of *curative* and *preventive* medicine about right, or should we be giving more emphasis to either one or the other than we do now?[4]

In a summary of the responses, the following was stated:

A substantial 42% plurality of the American people believes that more emphasis should be given to preventive medicine and less to curative. Only 10% think that more emphasis should be given to curative medicine, while 33% think that our health care system has got the balance about right now.

Very substantial majorities of both employers (79%) and labor union leaders (89%) think that more emphasis should now be given to preventive medicine.

While the term used is preventive medicine, the clear notion is to move from simply repairing health damage to something more positive. Further items in the Harris survey indicated substantial interest in adding health promotion programs to health plans, even if that entailed an added cost of $5 per month.

In another survey conducted in 1983 by Louis Harris and Associates, almost the same item as that cited above was used. By that time the general public's response had shifted even more strongly toward prevention.[5] Only 18% considered that the balance was right, whereas 52% favored more emphasis on prevention and 12% on treatment. Among those living in the West, those with higher levels of education and those with higher levels of income, 60% or more favored more emphasis on prevention.

Still more evidence of the American public's readiness for shifting the balance of our health care system away from treatment toward health maintenance appears in a 1978-1979 survey by Yankelovich, Skelly and White.[6] Again based on a national probability sample, 46% reported having "really changed their own and their families' life-styles—eating and exercise habits, etc.—in the interest of good health." Also pertinent to physician-patient partnership for health maintenance, 75% reported "a lot of confidence" in their doctors. On the other hand, 73% felt checkups cost too much for the average family, even though a strong majority perceived value in checkups—for adults as well as children.

A Schema for Health Maintenance

For several decades the American Medical Association (AMA) has been advocating "annual checkups." Although routinely espoused for the general population, standardized regimens for medical surveillance became popular only among certain groups, as indicated above, and the practice did not become widely established. Two factors may have contributed to the failure to attract adherence from the population as a whole. First, physicians did not achieve consensus on the contents of a checkup; many even remained skeptical of the value, especially in comparison with other components of their work, and their training did not prepare them for it, except in the case of obstetrics and pediatrics. Negativism prevailed despite the rhetoric of medical leaders. Second and perhaps more fundamental, the idea of an annual checkup did not make much biomedical sense. In the case of a pregnant woman, one stood a 25% chance of missing the whole episode! To achieve even adequate immunization of an infant, an "annual visit" was obviously insufficient. On the other hand, could one justify a checkup visit as often as once a year for a healthy man or woman 20 to 30 years of age? The issue of periodicity had to be faced.

During the 1970s a new approach to health maintenance emerged, called by some "lifetime health monitoring."[7] That approach was to specify periods of life—such as pregnancy; infancy; early and late childhood; adolescence; young, middle and late adulthood; elderly, and aged—for each of which physicians could set certain health goals and then outline professional services to reach these goals. For example, for persons 25 through 39 years of age health goals might be

- To prolong the period of maximum physical energy and to develop full mental, emotional and social potential.
- To anticipate and guard against chronic diseases through good health habits and early detection and treatment where effective.

Professional services

- Two professional visits with a healthy person—at about 30 and 35 years—including tests for hypertension, anemia, cholesterol, cervical and breast cancer and instruction in self-examination of breasts, skin, testes, neck and mouth.
- Professional counseling regarding nutrition, exercise, smoking, alcohol, marital, parental and other aspects of health-related behavior and life-style.
- Dental examination and prophylaxis every two years.

Various groups and persons have published such outlines. A rigorous evaluation of procedures to be included in periodic health examinations appears in a Canadian report.[8] The American College of Physicians has presented four schemata,

including the Canadian contribution.[9] A statement from the AMA Council on Scientific Affairs further illustrates the current recrudescence of the periodic health examination notion.[10]

Consensus appears to be developing that—by whatever name one prefers—lifelong health monitoring is a way to achieve a physician-patient partnership for health maintenance. The concept is to focus on preventing disease and promoting health. Its practice would encourage continuity of medical care, built around sensible periodic health appraisals already largely used for pregnancy and infancy and being used for limited groups of adults. It reflects a coherent view of health and the need for surveillance throughout life with attention to its biologic, psychological and social foundations. Lifelong monitoring of health aims at identifying two kinds of factors important to health: personal behavior in daily life; and physical variables, including anatomic, physiologic, chemical, immunologic, bacterial and genetic. Finally, it is designed to guide both physicians and patients toward preserving and even enhancing health.

Achieving the potential of lifelong health monitoring clearly requires that a patient and physician enter into a partnership, with wholehearted participation of both and respect for each other's role. Such an arrangement would be consistent with the several trends noted earlier.

Recent Experiences With Health Maintenance

The idea of moving away from medicine's almost exclusive focus on cure toward health maintenance, of course, does not imply jumping to the other extreme; proper balance is the goal.

Relatively great emphasis on third-party payment for hospital, surgical and medical services for treatment of sickness, along with denying payment for health promotion and preventive services, has long typified the American medical care scene. That policy reflected the original intent of insurance coverage—to pay for the cost of medical care to sick people. Insistence that payment for preventive services fell outside the range of insurance inhibited the development of such services.

Recently, however, the life and health insurance industry has begun to recognize the value of prevention. Lowering premiums to nonsmokers and showing its favorable economic impact opened the way.[11]

Initiation of the "life-cycle" project is a further step in that direction.[12] In that project, supported largely by the insurance industry, the introduction of systematic, carefully designed and monitored services in the lifetime health-monitoring mode is tested in three matched situations. Preliminary findings indicate the feasibility of that pattern of services, at least in group practices, paid for by insurance companies. Both patients and physicians expressed satisfaction, and the first data showed the average per-capita cost to be $59, ranging from $32 for preschool children to $135 for persons older than 75 years. Payment for counseling was included, but expenditures were kept low by eliminating tests regarded as unnecessary, such as routine chest x-ray films and electrocardiograms.

Similar attention to the benefits and cost of health-promotion services vis-à-vis regular medical services is leading industry, especially big firms, to introduce health-promotion activities for their employees at the work site. Frustrated by a failure to restrain the increased premium cost for health insurance, especially with no comparable improvement in benefits, many large corporations have turned to self-insurance. A number of such firms have also established health-promotion programs, to provide what seems a more obvious benefit for their employees. The extent of this development has thus far attracted little attention in medical circles. In California, a recent survey of employers with more than 100 employees at a site disclosed that, in addition to accident-prevention activities offered by 65% and training in cardiopulmonary resuscitation by 53%, from 8% to 19% had established programs against alcohol and drug abuse and for mental health counseling, stress management, fitness, hypertension screening and smoking cessation.[13] The number of such programs appeared to be rapidly accelerating.

Next Steps in Physician-Patient Partnership for Health Maintenance

Having briefly reviewed the basis in medical science, in medical practice and in public readiness for health maintenance as a new motif in health service, one may consider steps that might enhance a physician-patient partnership for that purpose. If achieved, it would constitute a considerable shift in emphasis for the work of physicians.

A fundamental step would be to introduce the necessary changes in physician education. In the predominant elements of current medical education—the principal exceptions being obstetrics, pediatrics and some family medicine programs—the role of physicians in health maintenance receives scant attention. Obviously in some specialties, particularly surgery and its components, substantial concern with that aspect of medicine would not be appropriate. The basic science curriculum, however, could be reoriented toward health maintenance. For example, many medical schools now offer a course in pathophysiology; why not some emphasis on "optimophysiology"? Training for medicine generally continues to stress diagnosis and treatment, especially of relatively rare conditions, rather than long-continuing relationships with patients devoted to health. Substantial reorientation of medical education would help prepare physicians to handle effectively the kind of physician-patient partnerships that are needed and developing.

Partnerships are, of course, two-sided enterprises, and complementary to physicians' role in health is that of the patients. Responsive to the American medical care situation in recent decades, people in this country have learned to look to physicians primarily for treating episodes of acute illness. One incidental outcropping of that experience can be seen in the tendency to use emergency rooms for care other than genuine emergencies. Although surveys indicate that people want more emphasis on health maintenance and prevention, they have not come to expect it of physicians. Perhaps that explains, in part, the tendency to seek help with alcohol problems, cigarette smoking, stress, diet and exercise outside the regular health care system. To establish a good physician-patient partnership for health, patients also must undergo some reorientation. In their case it involves both responsibility for health-related behavior and finding a physician relationship to guide and support such behavior.

However personally willing and ready physicians and pa-

tients may be for health maintenance service, the latter must also fit somehow into the system of health care. The people concerned may change the system, but as long as the system exists, it will determine how people behave in it. As long as the form of medical practice and the corresponding payment for its services include strong disincentives, health maintenance cannot thrive. Thus, organization of medical practice and appropriate payment mechanisms become necessary for health maintenance services to expand.

The growth of multispecialty group practice, which can support health maintenance logistically better than other forms of practice, and the willingness of the life and health insurance industry to consider explicit payment for it, are favorable signs. A physician-patient partnership for health maintenance is still an ideal to be achieved in medical practice.

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